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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,367	06/28/2001	Ralph James Knotts	80310023/IAS	2225

7590 11/25/2003  
MOSER, PATTERSON & SHERIDAN, LLP  
595 SHREWSBURY AVENUE  
SUITE 100  
SHREWSBURY, NJ 07702

EXAMINER

AGUIRRECHEA, JAYDI A

ART UNIT PAPER NUMBER

2834

DATE MAILED: 11/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/896,367

Applicant(s)

KNOTTS ET AL.

Examiner

Jaydi A. Aguirrechea

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)  
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6) ☐ Other:

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because Figure 3 shows lead lines but no reference numbers are shown, lines are not uniform.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: elements 150, 160, 134, 142 and 140.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

3. Regarding claims 8 and 17, the word "means" is preceded by the word(s) "capture" in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Bisantz (US 5659216).

AAPA disclose a stator comprising a plurality of laminations supporting coils which are sequentially energized to cause rotation of a hub supporting one or more discs for rotation in a plane axially over the stator.

However, it fails to disclose the magnets, shaft, hub and shield.

Bisantz discloses, in Figures 2 and 3, a spindle motor comprising:

a shaft (18) supported from a base frame and supporting on the outer diameter thereof;  
a stator (abstract),

a hub (14) supporting a magnet (12) and back iron (15) radially adjacent the stator coils, the back iron supporting a flux shield (lip 20) extending substantially of the entire width of the magnet and intervening between the magnet and the base,

the flux shield being formed of a magnetic material (low carbon) to capture any stray magnetic flux from the motor magnet.

for the purpose of providing a high degree of rigidity and rotational stability to the system.

It would have been obvious to one skilled in the art at the time the invention was made to use the shield disclosed by Bisantz on the spindle motor disclosed by AAPA for the purpose of increasing the stiffness or rigidity of the cup.

6. With regards to claims 2, 10 and 15, the shield is made of steel.

7. With regards to claims 3 and 11, the combination of AAPA and Bisantz discloses the claimed invention except for the shield is made of a mu metal. It would have been obvious to

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one having ordinary skill in the art at the time the invention was made to use mu metal since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. In the instant case, carbon steel is issued and both materials have high magnetic permeability and are used as magnetic shields.

8. With regards to claims 4 and 12, the shield is integrated with the back iron.
9. With regards to claims 5 and 13, the shield is glued to the magnets (Column 3, Lines 63-65).
10. With regards to claims 6 and 14, in figures 2 and 3 is shown the shield extending the entire width of the magnet.
11. With regards to claim 7, the housing defines a well, and the magnets and back iron extend axially from the lower surface of the rotor.
12. With regards to claims 16-18, since the magnet is glued to the shield, there is a space and it's filled with glue.

#### ***Response to Arguments***

13. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaydi A. Aguirrechea whose telephone number is 703-305-2277. The examiner can normally be reached on M-Th 9-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

  
JAA  
10/29/03

  
BURTON S. MULLINS  
PRIMARY EXAMINER